REMARKS

Claims 37-39 are amended. New claims 40-54 are added. Claims 37-54 are pending in the application.

Independent claim 38 stands rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states that the recited term "strong" is relative and renders the claim indefinite because it is not defined by the claims and the specification does not provide a standard for ascertaining the requisite degree to reasonably apprise one of ordinary skill in the art of the scope of the invention. Applicant disagrees.

The recited term "strong" in claim 38 is used in defining the texture of an alloy. Attention is directed to page 25 of the specification that specifically discloses that materials with strong to very strong textures are those which have an orientation distribution function (ODF) of greater than 10,000 mrd. The standard set forth is sufficient to reasonably apprise one of ordinary skill in the art of the scope of the invention. Accordingly, applicant respectfully requests withdrawal of the § 112 rejection of claim 38 in the Examiner's next action.

Claim 37 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Lo et al., U.S. Patent No. 5,766,380. The Examiner is reminded by direction to MPEP § 2131 that anticipation requires each and every element of a claim to be disclosed in a single prior art reference. Independent claim 37 is allowable over Lo for at least the reason that Lo fails to teach each and every limitation of the claim.

As amended independent claim 37 recites an alloy comprising a randomized microstructure, a texture with a substantially uniform grain size and a substantial absence of precipitates. The amendment to independent claim 37 is supported by the specification at, for example, page 5, line 10; page 6, lines 18-30; and the claims as originally filed. Lo discloses formation of randomly oriented aluminum alloy sputtering targets with fine grains and fine precipitates (col. 2, ll. 45-47), wherein the size of second phase precipitates is reduced (col. 2, ll. 63-65 and Figs. 1A and 1B). Lo does not disclose or suggest the claim 37 recited alloy comprising a randomized microstructure and a substantial absence of precipitates. Accordingly, independent claim 37 is not anticipated by Lo and is allowable over this reference.

Independent claim 38 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Thornburg, US Patent No. 3,849,212. As amended independent claim 38 recites an alloy comprising a strong texture and uniformly distributed second-phase precipitates. The amendment to claim 38 is supported by the specification at, for example, page 7, lines 10-15; page 9, lines 29-35; page 24, lines 18-27; and the claims as originally filed. Thornburg discloses an iron based alloy having a preponderance of the grains aligned in the cube-on-edge or (110) [001] orientation (col. 6, lines 12-15). Thornburg further discloses that the iron alloy has "normal grain growth" (col. 8, lines 46-48; and the abstract), with respect to the prior art which has "extremely large grain sizes such that the diameter usually greatly exceeds the thickness of the sheet material" (col. 1, lines 25-53). Thornburg does not disclose the claim 38 recited alloy comprises a strong texture and uniformly distributed second phase precipitates. Accordingly, independent claim 38 is not anticipated by Thornburg and is allowable over this reference.

Claim 39 stands rejected under 35 U.S.C. § 102 as being anticipated by anyone of Watanabe, US Patent No. 3,653,981; Meeks, US. Patent No. 6,123,896; Zhang, US Patent No. 6,193,821; Koike, JP 03-082773 (abstract); or Kawamata, JP 08-134606. As amended independent claim 39 recites an alloy comprises substantially random textures and having a fine grain size of less than about 1 micron. The amendment to independent claim 39 is supported by the specification at, for example, page 1, lines 32 through page 2, line 5; page 25, lines 27-35; and the claims as originally filed.

Watanabe discloses steel which can have a random texture (col. 2, lines 54-62). Meeks discloses tantalum materials having a <111> texture of 3.0X random or less (col. 3, lines 65-67). Zhang tantalum sputtering targets having predominately <222> texture and grain sizes on the order of 20 to 25 microns (col. 2, lines 43-46). Zhang additionally teaches that targets with predominately <222> texture produce sputtering advantages relative to those with random textures and therefore teaches away from random textures (col. 2, lines 6-42). Koike teaches a stainless steel having a random texture wherein the integrated intensity ratio does not exceed 3.0 in the textures in the (222), (211), (110), and (200) planes. Kawamata discloses a non-oriented silicon steel sheet. Not one of Watanabe, Meeks, Zhang, Koike and Kawamata discloses the claim 39 recited alloy having a substantially random textures and ultra fine grain size of less than about 1 micron. Accordingly, independent claim 39 is not anticipated by any of Meeks, Watanabe, Koike, Zhang, or Kawamata and is allowable over these references.

Each of claims 37-39 are further amended to replace the phrase "selecting at least a route" with the phrase "selecting at least one route", and to replace the phrase the phrase "the selected routes" with the phrase "the selected at least one route". Such amendments

are made to provide an improved claim format and are not intended to limit the subject matter of the claims.

New claims 40-54 do not "new matter" to the application since each is fully supported by the specification as originally filed. New claims 40, 44 and 52 are supported by the specification at, for example, page 2, lines 6-7; page 1, lines 10-14; and the claims as originally filed. Claim 41 is supported by the specification at, for example, page 20, lines 23-29; and Tables 1 and 2. Claims 43 and 49 are supported by the specification at, for example, page 7, lines 10-15; and the claims as originally filed. Claims 42 and 45 are supported by the specification at, for example, page 20, lines 23-29; and Tables 1 and 2. Claim 46 is supported by the specification at, for example, page 1, line 32 through page 2, line 5; page 25, lines 27-35; and the claims as originally filed. Claim 47 is supported by the specification at, for example, page 9, line 35 through page 10, line 3. Claim 48 is supported by the specification at, for example, page 24, lines 18-34. Claim 50 is supported by the specification at, for example, page 9, lines 32-35; and the claims as originally filed. Claim 51 is supported by the specification at, for example, page 20, lines 17-18; Tables 1 and 2; page 23, lines 20-24; page 23, lines 32-34; page 24, lines 30-33; and page 25, lines 6-15. Claims 53 and 54 are supported by the specification at, for example, page 20, lines 17-22; page 25, lines 6-; and Tables 1 and 2.

For the reasons discussed above claims 37-39 are allowable and new claims 40-54 are believed allowable. Accordingly, Applicant respectfully requests formal allowance of pending claims 37-54 in the Examiner's next Action.

Respectfully submitted,

Dated: November 12, 2002 By: Jennifer J. Taylor
Jennifer J. Taylor
Reg. No. 48,711

Application Serial No. 09/912,616
Filing Date ..... July 24, 2001
Inventor ..... Vladimir Segal et al.
Assignee ..... Honeywell International Inc.
Group Art Unit 1742
Examiner ..... Wilkins III, Harry D.
Attorney's Docket No. 30-5004-DIV3
Title: Alloys Formed From Cast Materials Utilizing Equal Channel Angular Extrusion

VERSION WITH MARKINGS TO SHOW CHANGES MADE ACCOMPANYING RESPONSE TO AUGUST 12, 2002 OFFICE ACTION

In the Claims

The claims have been amended as follows. Underlines indicate insertions and ~~strikeouts~~ indicate deletions.

37. (Amended) An alloy comprising a randomized microstructure and a texture with a substantially uniform grain size; said alloy being produced from a cast material by a method comprising the steps of:

defining equal channel angular extrusion routes for defining predetermined shear planes and crystallographic directions in the alloy;

selecting at least a one route from the defined routes for plastically deforming the alloy during equal channel angular extrusion; and

subjecting the alloy to a predetermined number of passes through the selected at least one route ~~routes~~, the alloy comprising a substantial absence of precipitates.

38. (Amended) An alloy comprising a strong texture; said alloy being produced from a cast material by a method comprising the steps of:

defining equal channel angular extrusion routes for defining predetermined shear planes and crystallographic directions in the alloy;

selecting at least one ~~a~~ route from the defined routes for plastically deforming the alloy during equal channel angular extrusion; and

subjecting the alloy to a predetermined number of passes through the selected at least one route ~~routes~~, the alloy comprising uniformly distributed second-phase precipitates.

39. (Amended) An alloy comprising substantially random textures; said alloy being produced ~~from a cast material~~ by a method comprising the steps of:

defining equal channel angular extrusion routes for defining predetermined shear planes and crystallographic directions in the alloy;

selecting at least one ~~a~~ route from the defined routes for plastically deforming the alloy during equal channel angular extrusion; and

subjecting the alloy to a predetermined number of passes through the selected at least one route ~~routes~~, the alloy comprising a fine grain size of less than about 1 micron.

--END OF DOCUMENT--